WISCONSIN STROKE PLAN 2005
Rehabilitation of Stroke Patients

A. Introduction

Rehabilitation of Stroke Patients: Ideal State
1. All stroke patients with residual deficits receive an evaluation for rehab therapy during initial hospitalization.
2. Levels of rehabilitation services and resources are periodically evaluated.
3. Stroke survivors are referred to an inpatient, outpatient or home-care service that provides the survivor's medical and functional needs.
4. Support systems are identified to ensure that patients discharged to home from hospitals and other care facilities have appropriate follow up and primary care arranged on discharge.

A systems approach is particularly important to promote the effectiveness of rehabilitation for stroke, especially given the importance of effective communication among providers, facilities, patients and family members. Coordination and collaboration among all providers throughout the continuum of care are important to optimize patient outcomes, and rehabilitation should begin as soon as medically feasible.

The intensity of rehabilitation services often is a critical determinant in the recovery of stroke patients. The use of coordinated, multidisciplinary stroke rehabilitation teams has been shown to diminish mortality rates for patients with stroke. In addition, stroke patients who receive care in an inpatient rehabilitation facility are more likely to return to the community and to recover activities of daily living.

The linkages and coordination of care should be maintained to ensure adequate communication among the full set of professionals delivering rehabilitation services. In addition, communication should be pursued among those providing outpatient care in various settings, including secondary prevention.

B. Current Status

Please rate Wisconsin's current status on *Rehabilitation of Stroke Patients* (on a scale from 1 to 5, 1 being poor (does not exist) and 5 being "ideal" state exists):

Patients evaluated for rehab
Levels of rehab services are periodically evaluated
Appropriate referrals to rehab exist
Support systems are offered

1. **__2.9___** All **stroke patients with residual deficits receive an evaluation** for rehab therapy during initial hospitalization.
2. **__1.0___** Levels of rehabilitation **services and resources** are periodically **evaluated**.
3. **__2.5___ Stroke survivors are referred** to an inpatient, outpatient or home-care service that provides the survivor's medical and functional needs.
4. **__2.8___** Support systems are identified to ensure that **patients discharged** to home from hospitals and other care facilities have **appropriate follow up and primary care arranged on discharge**.
5. **__2.3___ Overall Score**

C. Inventory

Identify assets and resources available to assist with the above recommendations.

Organization (Source)	Asset/Resource (Identify/Describe)	Assists with which Recommendation
AHA/ASA	Toll-free "Warmline" and website Database of stroke support groups Starting Now (secondary prevention in the rehab setting) *Stroke Connection Magazine* Stroke Group Registry Peer Visitor Program	#4
Submitted by Donna Pieschek, St. Vincent's Hospital, Rehab, Green Bay:		
CARF	Provides on-site review of Rehab program	#2
JCAHO	Provides Stroke program certification	#2
St. Vincent's Hospital	Functional admission screen done on all patients to assess need for PT, OT, Speech	#1
St. Vincent's Hospital Case Manager	Same case manager follows all stroke admissions and assists with movement through medical system and follow-up	#3 & 4
St. Vincent's Hospital	Have local support group; sign up patients for Stroke Connection magazine; give education binder to patients	#4
Submitted by: Angela Oldenburg, Bloomer Medical Center, Bloomer:		
Luther Hospital – EC Inpatient Neurosciences And Neuro Intensive Care	Nursing and physician (Neurologist or Neurosurgeon) complete neuro exam and refer for appropriate therapies. Pt. is discussed daily during Core Care Rounds where therapies, nursing, social services, pharmacy, respiratory therapy, chaplain, dietician, physiatrist are all present. Needs for therapies and discharge planning are completed during this daily meeting.	#1, #3, #4
Bloomer Medical Center – Transitional Care Unit	Core care rounds 2x/week with entire team noted above. MWF mini meetings for team to communicate plan of care and discharge planning.	#3
Center for Independent Living of WI	Community resource available for individuals wishing to return to work or assistance w/ home adaptation recommendations. Comprehensive communication is not always present d/t confidentiality issues.	#4
Submitted by: Dori Tooke, St. Luke's Medical Center, Rehabilitation, Milwaukee:		
St. Luke's Medical Center	• **Measurement tools including FIMs, the mini mental exam, NIH stroke scale, clinical pathways,**	

Rehabilitation	**interdisciplinary care plans, and general mobility/ADL/comp-cog-swallow evals for therapy** • **We use CARF and JCAHO quality criteria** • **We have county and community van services for transportation options** • **We have a stroke support group and a stroke at midlife support group** • **There is a rehab day program within our system at a sister hospital a few miles away** • **We have the full continuum of rehab care (ER-ICU-Acute-IRP-OP therapy and home care)** • **There are various respite and community based services, meals on wheels, etc.** • **There are multiple written pamphlets and booklets for information, community health fairs, etc** Being in a large urban area, we generally have the resources, but we often lack the family support to take advantage of all of the resources.	
Submitted by: Janet Papenfuss, Franciscan Skemp Healthcare, Rehab Services, La Crosse		
∅	∅ standardized screening tool	#1
Franciscan Skemp Healthcare P&Ps	Staffing plans/Bed availability counts	#2
Franciscan Skemp Healthcare Employee(s)	Discharge Planners, Social Workers, Rehab	#3
Franciscan Skemp Healthcare Unit Specific Meetings	Unit Patient Care Meetings and Staffings; SNF Patient Care Conferences (staffings)	#3
• Franciscan Skemp Healthcare Staff Employees • Unit Specific Meetings	Case Managers; Discharge Planners/Social Workers	#4
Submitted by: Kathy Mosack, Sacred Heart Hospital, Eau Claire		
Daily Neuro Unit Meeting SHH	Interdisciplinary team at Sacred Heart Hospital meet daily to review cases and determine treatment and discharge needs. This meeting is attended by the Rehab Coordination, OT, PT, Speech, Nursing, Discharge planner, Dietician, Pharmacist and Social Worker. Need for therapy and appropriate level of Rehab is discussed at this meeting.	#1 & 3
Rehab Screening Format - SHH	The Rehab Coordinator follows and completes information on a screening form that when reviewing medical records and evaluating patients referred for Inpatient rehabilitation. This information is given to the Physiatrist prior to his visit with the patient and determination of the appropriate setting for the patient.	# 1 and 3

Rehabilitation patient/team meetings	Weekly interdisciplinary conferences with therapies, nursing, soc service and physiatrist held for each patient on the rehab unit to discuss patient progress and discharge plans. The team meets daily without the MD for 15 to 20 minutes to coordinate patients on that team – maximum of 8 patients. The patient, family, and team of staff meet the day after admission to develop the patient's treatment plan together. Family conferences with the team of staff, MD, patient and family as needed and always prior to discharge to make sure all needs have been addressed.	#3 & 4
Stroke Support Group	A Support group – monthly meetings facilitated by hospital staff held at SHH.	#4
Discharge and follow-up calls. SHH	All patients discharged from the Rehab unit receive a phone call one or two days following discharge form their primary Rehabilitation RN to if they have any immediate unmet needs. Follow phone calls 2 to 3 months following discharge are made to gather FIM data and follow up appointments are made with primary physicians at discharge for follow up of the patient.	#4
CARF	Certifies Rehab Facilities holding them to a high standard of care	#2
JCAHO	Surveys Institutions and awards Stroke Certification as appropriate to centers that meet their criteria.	#2

D. Assessment for *Rehabilitation of Stroke Patients*

Recommendation 1: "A stroke system should ensure that all stroke patients receive a standardized screening evaluation during the initial hospitalization to identify the patients with residual impairment so the patients receive appropriate rehab."

- Rated at 2.9 out of 5; no standardized evaluation tool exists that is consistently used for screening and evaluations; recommend standardized tool. The standardized screening would have triggers to get the appropriate disciplines or services involved.
    - Hospitals provided some type of screening and evaluation but not standardized

- **Obstacles/Barriers:**
    - It would take some work to come up with a standardized tool
    - Having it cover everything needed (because there are subjective things to look at)
    - Short enough in length to not be too long, yet cover everything

- **Critical success factors:**
    - A taskforce of rehab professionals to develop it throughout the state
    - Engage the rehab community in the process for their buy-in and acceptance
    - Teaching/training small hospitals without rehab units to use the tool – should be something a nurse could do; a standardized screening, one that the nurse can do and triggers appropriate services be involved as opposed to a comprehensive dull therapy and nursing evaluation
        - This would provide the baseline upon entering the acute system as to a basic functional and mental baseline
    - Evaluations done in the ED since patients can be seen and sent home from the ED without necessary follow up
    - Assign responsibility for conducting the assessment (filling it out) should be held by nursing (regardless of how the patient is admitted ie direct to a bed or through the ED)
    - Use of evaluation screening tool at intake and transfer – the screening process is ongoing -- for example in the ED, on the floor, the transfers to floors, the transfer to rehab – once the patient is in the rehab unit the screening process is done
    - Make physicians aware of the screening tool and everyone else involved in the patient's care
    - Usually it's OT that gets forgotten and they did get activities of daily living mentioned, but not "Assessment of functional status" is pretty broad and we might miss a trigger if we're not talking about mobility/balance
    - Include "ability to take food by mouth or PO intake that would trigger a speech pathology consult."
    - Collaborate with the Acute Stroke panel to coordinate on any inpatient assessment tool they may recommend for hospitals when the patient is first admitted such as NIH stroke scale and how that may tie into our standardized screening tool.

Idea for Action: Working up a standardized screening and evaluation form is something that the committee, that the panel rather would recommend and maybe build an objective around.

Recommendation 2: "A stroke system should periodically assess its level of available rehab services and resources. Such an assessment should include the total number and types of beds available, the intensity of services provided, the presence of trans-disciplinary coordinated teams, the adequacy of care coordination. The assessment should consider the current and future needs of the system for inpatient care, etc."

- Rated at 1 out of 5; number one pretty much said it didn't exist in the state.
    - Improvement would be doing it at all; we said it was not being done.

- **Obstacles/Barriers:**
    - The repository of data on # beds, types of beds, intensity of services provided resides in different places per Mary Jo.

- In very rural areas of the state (far north) there are nursing homes with certified Medicare beds and they do have therapies, but they are very limited – there is no trans-disciplinary therapy team. Level of rehab available vs a metro area is very different. Need to know more than just certified beds; we need to know capabilities.
- "The thing I feel like is missing is the recommendation that we collect all of the stuff but not that we develop a guideline or a benchmark to say what's adequate. That's both under the goal and strategy, but also under the recommendation. It just says, "Collect it," but what are going to do with that, which I don't have a good answer to but it seems like the point of collecting it would be to determine if we have adequate resources or where we need to get resources, but we don't really address what it is that we determine to be adequate."
- "I think it should include outpatient and homecare because the lack of some of those kinds of facilities change, in different communities really affect how you treat patients."
- "I think the part that's missing is we don't have any information on how many stroke patients would need the various levels. We can count how many of the various levels we have, but maybe putting these two together, we could come up with that and it would be changing as the population changed."
- "We're looking at what we have, but we're not looking at what we need. We need to somehow look at what we need."
- Data is not currently available.

- **Critical success factors:**
  - Determine if there is a gap between what is available for rehab services and resources and # patients who are not receiving resources.
  - Panel does not know how to begin to get the information; if anyone handles this data.
    - Mary Jo comments "not yet"; that is stroke incidence and what a registry will provide – who had a stroke or TIA, who had what kind of rehab and determine if the patient received what was needed.
  - Development is longer term, not a short-term turnaround. Might be able to know how many people served. Data collected is for patients currently there, not over 12-month period.
  - Define what data is collected by the state and what needs to be collected.
  - Define geographically , by region to know what areas of the state have, and the barriers and obstacles in those regions.
  - It is commented that data may be kept by county – could the assessment be conducted by county to have data and availability of service/resource by county to know the availability of services and resources.
  - Post information from data collection on the CVH Stroke website—to list what's available and have information posted in one place accessible to all.
    - It is commented that keeping information up to date is important and have the posted information regularly reviewed (quarterly, semi etc)
    - Currently Mike Yuan would be the webmaster for the CVH Stroke site working with Mary Jo Brink.

Recommendation 3: "Stroke patients should be referred to an inpatient facility or an outpatient facility or a home care service that provides for their medical functional needs. The stroke system should develop performance measures that reflect the frequency at which patients receive the level of service that is appropriate for their condition. Research is needed to determine the impact of local practice variation and reimbursement policies on stroke outcomes and patients will receive other than the optimal level of rehab service."

- Rated at 2.5 out of 5. This is an important measure because of reimbursement for strokes

- **Current Situation:**
  - CARF accredited facilities have to collect outcome data, but a majority of facilities are not CARF accredited. Those that are have a standardized screening with triggers to get the appropriate disciplines or services involved and data is collected for gaps.
    - Do we know which facilities are CARF accredited? (web site does not list; need to submit request)
  - JACHO accredited facilities collect some type of outcomes information (who is getting what kinds of services) but we don't know how to determine whether or not there is a gap (refers back to #2).
    - Can get discharge disposition based on acute DRG; don't know what is available from ED (if it can be tracked)
  - Individual rehab units track data; it would be desirable to know what services patients got when they left the hospital

- **Critical success factors:**
  - Discerning what CARF and JCAHO collect for data – what data currently exists, is it publicly available?
  - Agreement on appropriate referral places for stroke survivors

- Determine through data collection if we are meeting what was defined as appropriate services (no standard exists that places strokes into categories for levels of services to administer)
  - We are not all on the same page in defining levels of stroke and what kind of care they require
  - Resources or guidelines on this are available
- Key is research – "we really need data in some controlled research to figure this out; everybody has an opinion"
- "I think the stroke system needs to develop them (performance measures) and the health facilities need to follow them and record if they follow them or something. I don't think that each facility, or group of facilities can develop performance measures. Then would they roll up to like a state report? I would think so and if we did that, we'd get a lot of what we needed in number two."
- Include in a survey if facilities are CARF (and at what level or for what services) or JCAHO certified.
- Defining appropriate referral for stroke survivors would be a long-term goal.

Recommendation 4: "Stroke system should establish support system to ensure that patients discharged from hospitals and other facilities to their homes have appropriate follow-up and primary care arranged on discharge. These efforts should include education and training for the patient and the family members, clear comprehensive timely communication across the inpatient and outpatient post-stroke continuum of care is essential to ensure appropriate medical and rehabilitation care."

- Rated at 2.8 out of 5. One of two rated the highest (the other at 2.9). Overall comment: "We felt we did this well for the rehab units but not necessarily always well from an acute care unit especially in a small hospital."

- **Obstacles/Barriers:**
  - Reimbursement
  - Not many health systems with acute care, rehab, home care – the full continuum
  - Another issue is distance – patients get sent 80-90 miles away (to their homes) for home care
  - Just plain availability of resources depending on the part of the state you are in – geographic barriers
  - "Compliance. We recommend but we don't have really necessarily any control over follow through the continuum of care, especially once they leave a facility to go to outpatient or home care - that kind of thing, which could certainly be addressed through education, but it is an obstacle."

- **Critical success factors:**
  - It would need to be a requirement in order to make it happen, like a basic JCAHO requirement.
  - Idea: A case manager to cover the entire continuum of care
    - Payers may have this available (Community Health Partnership, Eau Claire – act as an insurer, need to be Medicaid eligible)
    - New concept in La Crosse: "Patient care guide" but only developed for cancer at this time
  - Establish some basic guidelines and get those out there on the Web
  - From inpatient rehab unit:
    - Care management initiatives (best practice) provide what things to think of for the patient and through discharge (a checklist)
    - Team conferences all the disciplines and physicians present
  - JCAHO recommendation: stroke follow up clinic

E. Action Plan

Wisconsin Stroke Plan
Rehabilitation of Stroke Patients
2005-2007

Goal 1:	**A stroke system should ensure that all stroke patients receive a standardized screening evaluation during the initial hospitalization to identify patients with residual impairments to ensure these patients receive appropriate rehabilitation.**

Strategy 1: *Promote and encourage use of a standardized screening evaluation tool by nursing in the ED and/or during the initial hospitalization to provide important insights into the type and duration of rehabilitation therapy that is needed on a patient-by-patient basis.*

#	Objectives	Action Steps	Timeframe
1.1A	**Coordinate with the Acute Stroke Panel on assessments they are including (NIH scale etc) and collaborate with them for continuity.**	• Collaborate and integrate with Acute Stroke Panel on assessments they are including in their plan.	2005-2007
1.1B	**Develop a standardized screening evaluation tool for use by Wisconsin providers in the ED and/or at initial hospitalization.**	• Recruit a task force of rehab specialists to develop a survey and from data develop a standardized screening and evaluation tool for the initial acute phase, determine what components are included and provide recommendations for implementation and use. • Investigate what other states are using for screening tools and process. • Survey acute hospitals, ED departments on what they're doing now for screening (what process is used) and what standardized screening evaluation tool is used (request sample). • Develop a plan to engage the rehab community in the process for their buy-in and acceptance. • Coordinate and take into consideration other assessments recommended and used such as "JCAHO is stressing that the NIH Stroke Scale be done in the ED. That's what we're trying to do at our site is make sure that every nurse in the ED knows how to do the NIH scale. We have other triggers as well in the collaborative database that they fill out when they assess any patient. There are triggers for other services, but that's another tool that they would use would be the NIH scale if they had stroke-like symptoms.	2005-2007
1.1C	**Encourage consistent use of a standardized screening evaluation tool.**	• Develop and promote a training program for hospitals and in particular small hospitals on implementation and consistent use of the standardized screening evaluation tool. • Recruit a task force of rehab specialists to develop a training program. • Develop a plan to promote the standardized screening evaluation tool and training (consider offering "webinars" to hospitals). • Ensure the standardized screening and evaluation tool is readily available (posting on the CVH Stroke website).	2005-2007

Strategy 2: *Standardized screening evaluations for stroke rehabilitation should include a neurological assessment of residual deficits, assessment of functional status (activities of daily living), cognitive and psychological status, determination of prior function status and medical co-morbidities, the level of family/caregiver support, the likelihood of return to the community and the ability to participate in rehabilitation services.*

#	Objectives	Action Steps	Timeframe
	See 1.1B above.	• Include this information as part of the survey developed above.	2005-2007

Goal 2: **A stroke system should periodically assess its level of available rehabilitation services and resources.**

Strategy 1: **Ensure periodic assessment of available rehabilitation services and resources to include:**

- **total number and types of beds available,**
- **intensity of services provided in different settings,**
- **presence of trans-disciplinary coordinated teams and**
- **adequacy of program of care coordination.**

This assessment should also consider:

- **current and future needs within the system for inpatient care,**
- **relative mix among inpatient rehabilitation facilities, skilled nursing facilities, nursing homes, home care services and outpatient services.**

#	Objectives	Action Steps	Timeframe
2.1A	**Define what data is currently collected, what needs to be collected and survey to collect data not currently available.**	Steps to determine where we are: • Work with the CVH Epidemiologist to report to the task force the on data currently collected by the state. • Generate suggestions for collecting data not currently collected. • Recruit a task force to determine what data should be collected by the state, define settings (inpt and outpatient rehab, rehab facilities, nursing facilities, home health, extended care facilities, CBRF) and types and intensity of rehab services offered. • Develop and field a survey with web-based response (survey to include opinions on the adequacy of resources ie questions about where people are sent for stroke rehab and is this the optimal place, or is it a site because there is no other option, are resources adequate).	2005-2008
2.1B	**Make information available on resource coverage to meet stroke rehab patient needs in regions of the state.**	Steps to assess where we need to be and what we are going to do about it: • Analyze data from the survey above and other collected data. • Determine the state of stroke rehab resources in various regions of the state and how to improve them where needed. • Assess conducting a periodic survey (every two years??) to ensure knowing how many stroke patients there are, and assess if the state has adequate resource coverage for stroke patients in regions of the state? • Explore/Determine what is adequate coverage and what we would do about it if we found resources were not adequate. • Publish information on the CVH Stroke website.	2008-2009

Goal 3: **Stroke patients should be referred to an inpatient facility, an outpatient facility, or a home care service that provides for their medical and functional needs.**

Strategy 1: **Develop performance measures that reflect the frequency at which patients receive the level of service appropriate to their condition.**

#	Objectives	Action Steps	Timeframe
3.1A	**Investigate published guidelines and recommendations for placement for rehab care**	• Recruit a task force to investigate and make recommendations for an acute stroke algorithm and best practices for placement for rehab care after stroke for Wisconsin stroke care.	2005-2007

	after stroke (right level of care at right time for best outcome) and best practices occurring in other states or within Wisconsin.		
3.1B	**Promote acute stroke algorithm for placement for rehab care after stroke for Wisconsin stroke patients.**	• Determine a plan to promote algorithm and best practice recommendations.	2008-2009

Strategy 2: Encourage research to determine the impact of local practice variation and reimbursement policies on stroke outcomes in patients who receive other than the optimal level of rehabilitation services.

#	Objectives	Action Steps	Timeframe
3.2A	**Explore reimbursement issues in common across the state.**	• Survey hospitals and other stroke rehab sites regarding stroke reimbursement issues. • Determine what improvements are needed and develop a plan to move improvements forward.	2007+

Goal 4: A stroke system should establish support systems to ensure that patients discharged from hospitals and other facilities to their homes have appropriate follow-up and primary care arranged upon discharge.

Strategy 1: Promote education and training to the patient and family members to ensure their awareness and knowledge of appropriate follow-up and primary care after discharge.

#	Objectives	Action Steps	Timeframe
4.1A	**Raise awareness among patients and family members and health care providers on the importance of follow-up and primary care after discharge.**	• Reinforce stroke signs and symptoms and call 911 with stroke patients, families, caregivers • Identify supporting stroke resources such as o Messages at discharge, educational materials for patients and family, caregiver info and support groups (and info available in in different communication modes…print, audio visual etc) o Support systems resources (case management, follow-up clinic, patient follow-up practices, education and training available) o Placing info on the CVH Stroke website dedicated to stroke rehab for patients and providers etc	2005-2007

Strategy 2: Promote clear, comprehensive and timely communication across the inpatient and outpatient post-stroke continuum of care to assure appropriate medical and rehabilitation care.

#	Objectives	Action Steps	Timeframe
4.2A	**Encourage hospitals (and other facilities) to adopt ED and acute care discharge systems that will automatically communicate with primary care physicians and copy patients on follow-up care (exit care sheet).**	• Identify best practices and materials that will support this objective for stroke patients, families and caregivers. • Promote the need for exit care information to be provided to primary care physicians and other follow-up providers. • Educate stroke patients and family members and caregivers on the importance of follow through on recommendations for appropriate medical and rehab care.	2005-2007